

INTEGRATION OF WDM CHANNELS WITH DISPARATE BIT RATES

Abstract of the Disclosure

5 Systems and methods for upgrading selected wavelengths in a WDM link to
higher data rates at minimal expense are provided. Error correction coding techniques
are employed such that the data encoded onto the upgraded wavelengths experiences
higher coding gain than that experienced by data encoded on the non-upgraded
wavelengths. This increases receiver sensitivity without the use of expensive opto-
10 electronic components. In one embodiment, Reed-Solomon coding is employed on the
upgraded wavelengths and no error correction coding is employed on the remaining
wavelengths. These techniques may also be applied to new WDM links carrying
channels with disparate bit rates.